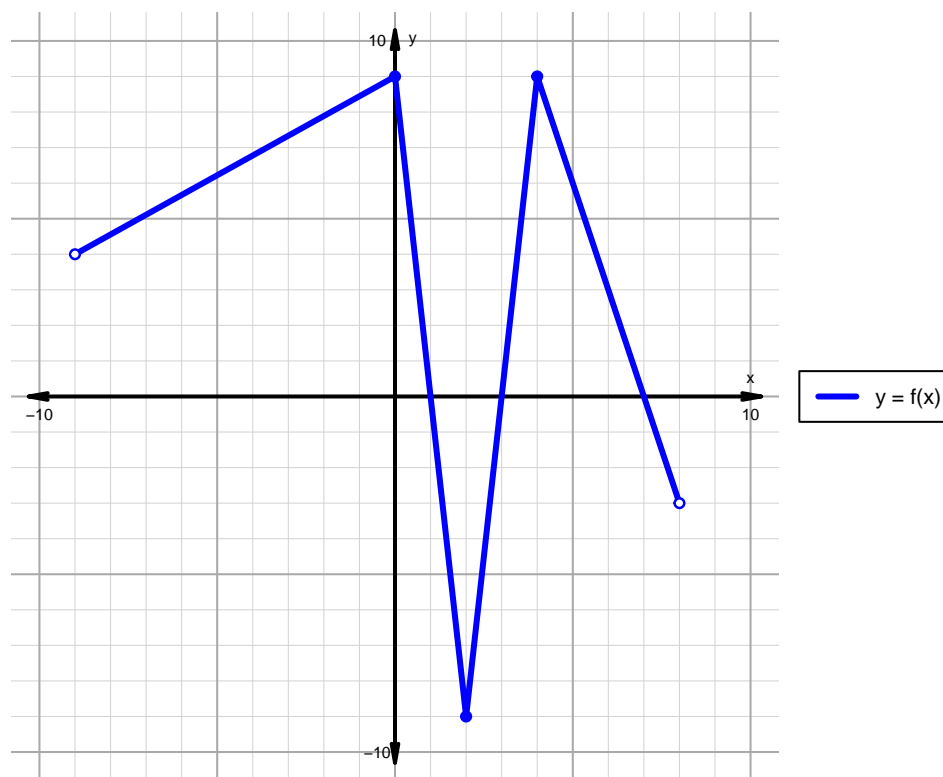


Name: _____

Date: _____

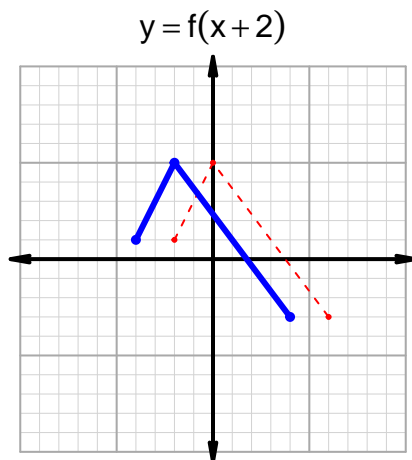
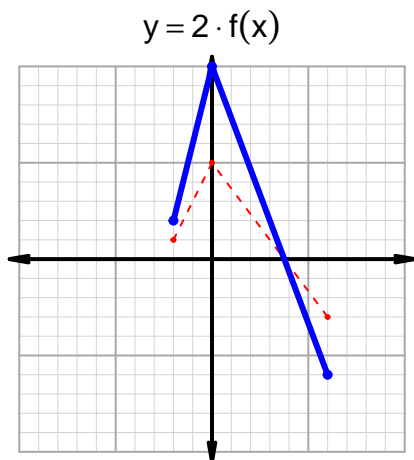
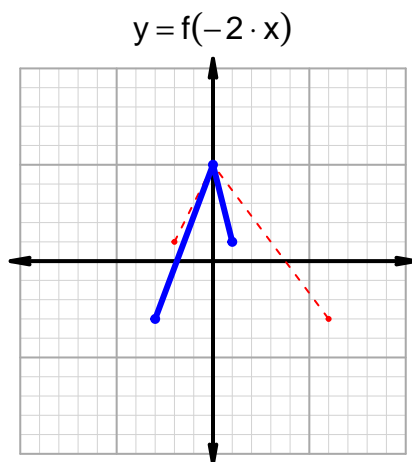
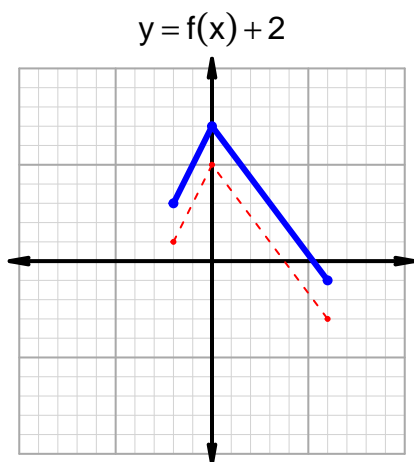
Intervals, Transformations, and Slope Solution (version 148)1. The function f is graphed below.

Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

| Feature | Where |
|------------|-----------------------|
| Positive | $(-9, 1) \cup (3, 7)$ |
| Negative | $(1, 3) \cup (7, 8)$ |
| Increasing | $(-9, 0) \cup (2, 4)$ |
| Decreasing | $(0, 2) \cup (4, 8)$ |
| Domain | $(-9, 8)$ |
| Range | $(-9, 9)$ |

Intervals, Transformations, and Slope Solution (version 148)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 11$ and $x_2 = 43$. Express your answer as a reduced fraction.

| x | $g(x)$ |
|-----|--------|
| 11 | 59 |
| 43 | 63 |
| 59 | 43 |
| 63 | 11 |

$$\frac{f(43) - f(11)}{43 - 11} = \frac{63 - 59}{43 - 11} = \frac{4}{32}$$

The greatest common factor of 4 and 32 is 4. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{1}{8}$$